AMENDMENTS TO THE CLAIMS

1-14. (Canceled)

15. (Withdrawn) A computer readable media having stored thereon a set of instructions for causing a mask writing tool to create a mask comprising:

a description of a number of files in a mask writer format the define structures on a mask, wherein at least two of the files have overlapping extents; and

a description of where each of the files should be placed on the mask.

16. (Withdrawn) A computer readable media having stored thereon:

a sequence of instructions that, when executed by a mask writing tool, causes the mask writing tool to write a number of overlapping files onto a mask in order to create a layer of a device.

17. (Withdrawn) A computer readable media having stored thereon:

descriptions of one or more repeated cells, each having patterns of polygons that correspond to structures that are repeated in a layer of a device;

a description of one or more remainder cells having polygons that, when written, create structures not created by writing the descriptions of the repeated cells, and areas that prevent the creation of structures on the mask that would be created by writing descriptions of the repeated cells.

18. (Withdrawn) The computer readable media of Claim 17, wherein:

the number of repeated cells include polygons that compensate for a cell's interaction with other cells that define structures in the layer of the device.

19. (Withdrawn) A computer readable media on which is stored instructions for execution by a mask writing tool to create a mask for a layer of a device, comprising:

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instructions to write sets of structures on the mask, at least some of the sets having extents that overlap; and

instructions of where each of the sets is to be written on the mask.

20. (Canceled)

21. (Withdrawn) A computer readable media on which is stored a set of instructions for a mask writing tool to create a mask for a single layer of a device, comprising:

a number of files, each of which corresponds to a selected cell in a data layer of the device, wherein the selected cells are modified to compensate for each instance of the selected cell's interactions with other cells above and/or below the selected cell in the data layer in order to create the structures defined by cells above and/or below each instance of the selected cell in the data layer;

a description of a number of locations at which the files should be written; and

one or more files that define structures in the layer of the device that are not created by writing the files corresponding to the selected cells at the locations indicated.

22. (Canceled)

23. (Withdrawn) A computer readable media on which is stored a sequence of program instructions that, when executed by a computer, will cause the computer to perform the acts of:

reading a file that defines a number of cells for a layer of a device;

analyzing the cells and selecting a number of the cells;

modifying the selected cells to compensate for each of the selected cell's interaction with other cells;

producing a number of files in a mask writing format that correspond to the modified, selected cells; and

producing a list of positions in a mask writing format that indicates where the files are to be written on a mask.

24. (Withdrawn) A computer readable media on which is stored a sequence of program instructions that, when executed by a computer, causes the computer to perform the acts of:

reading a device layout file that defines a number of cells of a layer in a device; and

selecting a number of the cells, wherein at least some of the number of selected cells define structures in the layer that are repeated, wherein the selection is made such that the time required to write files corresponding to the selected cells is minimized and the coverage area of the files corresponding to the selected cells is maximized.

25. (Withdrawn) The computer readable media of Claim 24, further comprising instructions that cause the computer to:

modify a selected cell based on the selected cell's interaction with other cells in the device layout.

26. (Withdrawn) The computer readable media of Claim 24, further comprising instructions that cause the computer to:

create one or more additional cells that create structures in the layer not created by writing files that correspond to the modified cells.

27. (Withdrawn) The computer readable media of Claim 26, further comprising instructions that cause the computer system to:

generate files in a mask writer format corresponding to the modified cells and for the one or more additional cells; and

generate a list in a mask writer format of where each of the files should be written on the mask to create the layer of the device.

-4-

28-34. (Canceled)

35.   (Currently amended) A method of creating a file that describes a layer of an integrated circuit for use by a mask writing tool, comprising:

receiving a hierarchical input file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to be created on a mask, and may include references to other cells;

selecting one or more cells from the hierarchical input file;

modifying the selected cells to include the polygons or portions thereof found in overlapping placements of the non-selected cells and the placements of the selected cells and/or to compensate for interactions with other cells;

creating one or more remainder cells to include polygons or portions thereof defined in the placements of non-selected cells that are not within the modified, selected cells; and

creating a file for use by a mask writing tool by eliminating the non-selected cells such that the description of the modified, selected cells and the one or more remainder cells with their placements describe the layer of the integrated circuit.

36.   (Previously presented) The method of Claim 35, wherein each cell has an extent, and the extents of at least some of the modified, selected cells to be written on the mask overlap.

37.   (Previously presented) The method of Claim 35, wherein the step of creating one or more remainder cells includes creating a cell with polygons that prevent extraneous patterns from being created on a mask when the modified selected cells are written on the mask.

38.   (Previously presented) The method of Claim 35, wherein the selection of cells is limited to cells that are repeated in the layer of the integrated circuit.

39.   (Currently amended) The method of Claim 35, further comprising: determining an area of a mask that would be occupied by each cell and the time required to write the

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placements of a cell on a mask, wherein the selection of cells is limited to cells that maximize the area of the mask written with the modified, selected cells and minimizes the time required to write the modified, selected cells on the mask.

40.   (Previously presented) The method of Claim 35, wherein the selected cells are modified by determining if the mask writer is capable of transforming the orientation of modified, selected cell and if not, creating a copy of the modified, selected cell that the mask writer can print in a proper orientation.

41.   (Currently amended) A computer readable media including a number of instructions that when executed by a computer cause the computer to perform a method for creating a file that describes a layer of an integrated circuit for use by a mask writing tool by:

receiving a hierarchical input file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to be created on a mask, and may include references to other cells;

selecting one or more cells from the hierarchical input file;

modifying the selected cells to include the polygons or portions thereof found in overlapping placements of the non-selected cells and the placements of the selected cells and/or to compensate for interactions with other cells;

creating one or more remainder cells to include polygons or portions thereof defined in the placements of non-selected cells that are not within the modified selected cells; and

creating a file for use by a mask writing tool by eliminating the non-selected cells such that the description of the modified, selected cells and the one or more remainder cells with their placements describe the layer of the integrated circuit.

42.   (Previously presented) The computer readable media of Claim 41, wherein the instructions further cause the computer to create one or more remainder cells by creating a cell

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with polygons that prevent extraneous patterns from being created on a mask when the modified, selected cells are written on the mask.

43.   (Previously presented) The computer readable media of Claim 41, wherein the instructions further cause the computer to limit the selection to cells that are repeated in the layer of the integrated circuit.

44.   (Currently amended) The computer readable media of Claim 42, wherein the instructions further cause the computer to determine an area of a mask that would be occupied by each cell and the time required to write the placements of a cell on a mask and to limit the selection of cells to cells that maximize the area of a mask written with the modified, selected cells and minimizes the time required to write the modified, selected cells on the mask.

45.   (Previously presented) The computer readable media of Claim 42, wherein the instructions further cause the computer to modify the selected cells by determining if the mask writer is capable of transforming the orientation of a modified, selected cell and if not, creating a copy of the modified, selected cell that the mask writer can print in a proper orientation.

46.   (Currently amended) A method of preparing a file that describes a layer of an integrated circuit to be used by a mask writer to create one or more masks, comprising:

receiving a hierarchical input data file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to be created on a mask, a placement of where the cell is to be printed, and may include references to other cells;

reducing the hierarchy of the input data file to include a number of selected cells and the one or more remainder cells by:

selecting a number of cells;

modifying the selected cells by incorporating polygons or portions thereof defined in non-selected cells having extents that overlap the extents of the selected cells; and

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creating one or more remainder cells, including polygons or portions thereof that are not defined in the modified, selected cells; and

creating the file for use by the mask writer that describes the layer of the integrated circuit by including the selected cells and the one or more remainder cells, and their placements.

47.   (Currently amended) A computer readable media including a number of instructions that when executed by a computer cause the computer to perform a method of preparing a file that describes a layer of an integrated circuit to be used by a mask writer to create one or more masks by:

receiving a hierarchical input data file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to be created on a mask, a placement of where the cell is to be printed, and may include references to other cells;

reducing the hierarchy of the input data file to include a number of selected cells that include polygons or portions thereof defined in non-selected cells having placements that overlap placements of the selected cells, and one or more remainder cells having polygons or portions thereof not defined in the selected cells; and

creating the file for use by the mask writer that describes the layer of the integrated circuit by including selected cells, the one or more remainder cells and their placements describe the layer of the integrated circuit.

48.   (Currently amended) A file that describes a layer on an integrated circuit for use by a mask writer to create one or more masks, wherein the file is created by:

receiving a hierarchical input file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to be created on a mask, an indication of where the cells should be placed, and may include references to other cells;

selecting one or more cells from the hierarchical input file;

modifying the selected cells to include the polygons or portions thereof <u>found in overlapping placements</u> of <u>the</u> non-selected cells <u>and the placements of the selected cells</u> ~~and/or to compensate for interactions with other cells~~;

creating one or more remainder cells to include polygons or portions thereof defined in the placements of non-selected cells that are not within the modified, selected cells; and

creating a file for use by a mask writing tool by eliminating the non-selected cells such that the description of the modified, selected cells and the one or more remainder cells with their placements describe the layer of the integrated circuit.

49.   (Currently amended) A file that describes a layer of an integrated circuit for use by a mask writer to create one or more masks that is created by:

receiving a hierarchical input data file that defines a number of cells, each of which defines one or more polygons corresponding to patterns to <u>be</u> create<u>d</u> on a mask, an indication of where the cells should be placed, and may include references to other cells;

reducing the hierarchy of the input data file to include only a number of selected cells <u>that define a number of polygons and polygons or portions thereof that are defined in non-selected cells having placements that overlap the placements of the selected cells</u> and [[the]] one or more remainder cells <u>that define polygons or portions thereof that are not defined in the selected cells</u>; and

creating the file for use by the mask writer that describes the layer of the integrated circuit by including the selected cells and the one or more remainder cells and their placements.

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